

# Lead-Free Wheel Weights

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## INTRODUCTION

The European Union (EU) declared a ban on the use of lead in wheel weights in 2005.

Worldwide, an estimated 70,000 tons of lead each year is used in the manufacture of wheel weights used to balance vehicle tires. Recent studies, summarized by the [Lead Free Wheels Program](#), have shown that deposition of lead from wheel weights is a significant and previously unquantified source of lead releases to the environment. These releases are especially troublesome because they are not concentrated at easily identifiable point sources, but are randomly scattered across our nation's roadways.

Medical research shows that lead can harm human health even at low exposure levels. Adverse impacts of lead include learning abnormalities and behavioral problems in children. The combination of high toxicity, a long life in the environment, and the ability to build up in food chains makes lead one of the most problematic chemicals in commerce for human and ecological health.

An average vehicle contains ten wheel weights (two on each of the four wheels and two more on the spare), the majority of which are clip-on types that can detach from the wheel's rim. Recent studies (according to Lead Free Wheels project) have documented that on average 13% of these wheel weights fall off onto roadways, where they are pulverized by traffic and carried into waterways by rainwater. Busy streets and parking lots are the primary sources of lead in urban runoff and can contaminate the water supply and harm aquatic life.

Alternatives to lead include zinc, steel, and steel shot encased in plastic.

Although there are no Federal regulation governing the use of lead wheel weights in the United States (U.S. Environmental Protection Agency, 2005), state and local levels of government are taking action similar to the EU. As of October, 2011, seven states (including Washington State) have passed legislation aimed at curbing, or eliminating lead wheel weights.

## USAGE HISTORY AND EXPERIENCE

Lead weights have typically been used to balance wheels on vehicles. Because these frequently fall onto the roadway and are pulverized by traffic, they are increasingly understood to represent a public-health issue and are receiving increasing attention from regulators. The European Union banned lead wheel weights in 2005. Legislation was passed in Washington State in 2009, stating that starting January 1st, 2011, lead wheel weights **may not be used** to balance tires in Washington State ([RCW 70.270](#)). You must use non-lead wheel weights.

In 2005, due to environmental concerns and increased availability of alternatives, the Fleet Administration Division of the King County Department of Transportation took leadership on this issue

and started testing an alternative to lead wheel weights on passenger cars and trucks. The product they chose to test consists of adhesive flexible plastic cartridges filled with steel media in various weights. In 2007, the manufacturer of these weights eliminated polyvinyl chloride (PVC) from their casings and replaced it with polypropylene, in response to environmental concerns about PVC. They also introduced larger sizes for use on heavy-duty trucks. Fleet continues to use these weights, even though the cost per unit is higher than lead weights, because the product works well and is less harmful to the environment.

King County's experience has led to the adoption of lead-free weights by other jurisdictions. The county also shared these efforts and learned about others by participating in bi-monthly national conference calls with the Lead Free Wheels campaign, led by the Ecology Center in Michigan, and with other jurisdictions and organizations.

EPA stats:

- There are 200 million autos and light trucks on the nation's roadways.
- Sixteen million new autos are produced annually in the United States.
- An average of 4.5 ounces of lead is clipped to the wheel rims of every automobile in the United States.
- Approximately 50 million pounds of lead is used annually to produce tire weights worldwide in autos and light trucks.
- 75% is recycled by secondary lead smelters.
- 25% (or 12.5 million pounds annually) is uncontrolled or unmanaged in the environment.
- 13% of the 12.5 million pounds (1.6 million pounds) is lost when wheel weights fall off during normal driving conditions (e.g., hitting a pot hole).
- 87% of the 12.5 million pounds (10.9 million pounds) is sold or given to hobbyists for recreational purposes (e.g., melting down to make fishing sinkers).

## **BID AND CONTRACT SPECIFICATIONS**

The State of Washington added steel wheel weights to contract back in 2007.

- [Washington State Contract 01809](#)
  - Napa - Steel wheel weights
  - Carquest - Steel and Zinc wheel weights

## **FOR MORE INFORMATION**

[National Lead Free Wheel Weight Initiative](#) - EPA

[Lead Free Wheels](#) - Ecology Center

[Lead Free Wheel Weights Fact Sheet](#) - State of Washington

State of Washington legislation [Chapter 70.270 RCW - Replacement of lead wheel weights](#)

[Stocks and Flows of Lead-Based Wheel Weights in the United States](#) - U.S. Geological Survey (USGS)

[2008 Vermont legislation](#) - Bill: S.0152 / Title: Prevention of lead poisoning by exposure to lead in consumer products

[2009 State of California – Senate Bill 757](#)

## VENDOR INFORMATION

King County's current supplier:

- [XactBalance product](#)

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(800)233-7086

(323)533-9374 cell

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- [Lead Free Wheel Weight suppliers](#) - Ecology Center

Retail availability:

[Bridgestone/Firestone](#) converting to lead-free balancing at all of their retail stores in 2008

Les Schwab Tire Centers to Phase-Out Lead Wheel Weights